

UPGRADE WORKSHOP

Video capture cards

You don't need a brand new system to start editing video at home. Seth Barton shows you how a few inexpensive tweaks can have you cutting and splicing in no time at all

With the ever-increasing power of today's PCs, even cheap, general-purpose systems can handle video editing. Besides plenty of disk space and a decent processor, all you need is a way of getting video on and off your computer. This low-cost upgrade will give the precious memories captured on your camcorder a new lease of life.

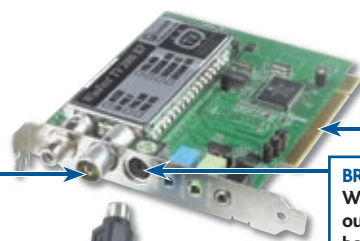
The type of video capture card you need depends on your camcorder or VCR. If you have an analogue camcorder or VCR based on VHS, Video8 or Hi8 tapes, check the device's video outputs and see our compatibility checklist below for details. Most camcorders have S-video and composite video outputs, with phono outputs for audio. Most video recorders have only composite and phono outputs, but some older VCRs don't even have these. You'll have to use the RF output instead.

Whichever outputs are available, you'll need a capture card with matching inputs. Most TV tuner cards have all the common inputs. They're cheap, and provide the added bonus of TV on your desktop. You can buy an external USB device, such as Terratec's Cinergy hybrid T USB XS, reviewed in *What's New, Shopper* December 2005, or an internal card, such as the TwinHan Ter (D+A) reviewed in *What's New, Shopper* September 2005. Watch out for digital TV cards, though, as most come without analogue inputs.

RF INPUT Use this to connect to an old VCR, or connect a TV aerial and watch TV on your PC

PHONO INPUTS Usually found only on breakout leads, stereo phono audio inputs are compatible with most VCRs and camcorders

MINI-JACK AUDIO INPUT Alternatively, you can capture audio through a mini-jack input on your capture card or sound card



PCI CONNECTOR This is the most common way of connecting internal PC upgrades. Check your PC's motherboard for a spare slot before you start

BREAKOUT CONNECTOR When a card's inputs and outputs won't all fit on its backplate, a breakout connector makes a series of connections to a compound port, through a special cable

COMPOSITE INPUT A lower-quality analogue video connection than S-video. It is, however, more common than S-video on VCRs

S-VIDEO INPUT This interface gives the best quality when transferring analogue video from a camcorder or VCR

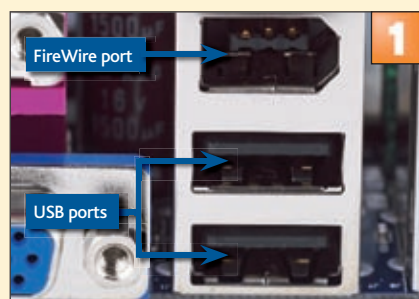
If you have a digital camcorder, which probably uses MiniDV tapes, you can transfer the footage directly to your PC through a data port. Most digital camcorders have FireWire outputs (also known as i.Link or IEEE 1394), while some newer models use USB2 connections. If your PC lacks the necessary

port, you'll have to add one on a PCI card. Either type should cost less than £20 including VAT.

INSTALLATION

The procedure for installing a PCI card is the same whether it's of the TV, FireWire or USB variety.

COMPATIBILITY CHECKLIST

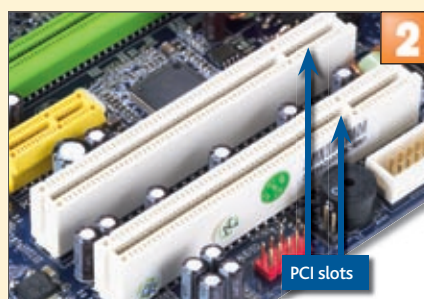


YOUR PC

Before you buy a capture card, check its minimum system requirements. You'll need at least a 400MHz processor, 32MB of RAM and plenty of disk space. TV tuners and USB or FireWire PCI cards need Windows 98 SE or later.

Your PC may already have FireWire or USB ports for digital video capture. Most USB cameras use USB2; your motherboard manual will tell you if you have this.

CHECKED ☐



PCI SLOT

If you want a neat internal upgrade, you'll need to open the chassis of your PC and check for a spare PCI slot. Make sure the new PCI card doesn't obstruct the airflow to your graphics card, as this could cause overheating.

If you don't have a spare PCI slot, you could still use a USB device for analogue capture. Check first to see if you have a compatible USB2 port.

CHECKED ☐



INPUTS AND OUTPUTS

It is essential that you buy a device that accepts the video output you want to use. Find out what outputs your VCR or camcorder has.

S-video is the best analogue signal to use as it gives a sharper picture than composite output. S-video sockets are round, with four pins and a rectangular key. Composite connectors are usually yellow, but otherwise look like the phono connectors used for audio.

CHECKED ☐



You may need to install drivers before you insert the card in your PC, so check the instructions for the correct installation order. Make sure you also have your Windows installation CD to hand.

1 FITTING A PCI CARD

Unplug your PC and remove its cover, referring to the manual for instructions if needed. Before you start, and periodically as you work, touch the unpainted part of a radiator to discharge any static electricity build-up.

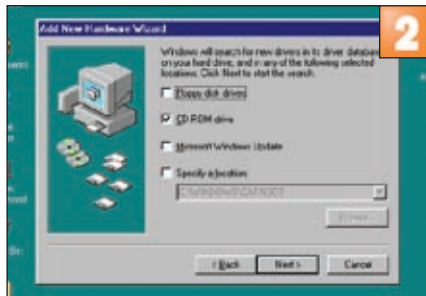
Locate a spare PCI slot and find its associated blanking plate. Remove the retaining screw and place it safely to one side, then carefully slide the plate out. Some chassis have pop-out blanking plates or clamps for retaining expansion cards.

Line up the PCI card with the slot and press it firmly and evenly until the connector disappears into the slot. The plate on the end of the card should slide neatly into the space left by the blanking plate. Replace the screw you removed earlier to hold the card securely.

There's no point in replacing the cover on your PC before you've checked that it is working correctly. Refer to the testing and troubleshooting box below for guidance.

2 INSTALLING DRIVERS

Most PCI cards require you to install their associated driver software. This step varies between products, so check the installation



instructions before you proceed. Most TV tuner cards come with a software and drivers disc, which should be easy to use. Usually you should cancel any Windows prompts that ask for drivers, insert the manufacturer's disc and run its setup program.

During installation on Windows XP, you may see a message warning that the drivers have not passed Windows Logo Testing. This is common when installing new hardware. Provided you are using the disc shipped with your card, it's normally fine to click Continue Anyway.

FireWire cards use a driver that is already present on Windows XP systems. Your computer should identify the new card automatically and install the correct driver. Windows 98 SE or Me should prompt you to install the necessary files. When the Add New Hardware Wizard appears, click Next, select 'Search for the best driver for your device' and click Next again. Make sure the driver disc is in your CD drive, and that Windows includes that drive when searching for drivers (see image 2, above). You will be offered a PCI OHCI-compliant IEEE 1394 host controller, which you should install.

If Windows requests your original Windows disc, put it in your CD drive. Browse to the drive letter of your CD drive (usually D:), select the Win98 or WinME directory and click OK. The driver should now install, but you need to reboot your PC before the device will work properly.



A USB card should work automatically in Windows XP systems. Windows 98 SE and Me will also support the card, but they must be up to date. Go to www.windowsupdate.com to get all the latest fixes. After that, the procedure is similar to that detailed above for FireWire cards, but in this case you will be installing a USB Host Controller.

3 HOOKING UP

Once the card is installed, you need to hook up your video source to the PC. Most full-size analogue camcorders and VCRs have standard video connectors. Many smaller camcorders have a proprietary port, but should come with a lead that provides standard connectors. Some TV cards use breakout cables, which provide a range of connections from a single

port on the back of the card. Remember to connect an audio lead to capture your soundtrack. Some TV cards lack an audio input, so you have to feed audio into your sound card.

There are a few types of FireWire and USB connectors. Each requires a different cable, but digital camcorders should come with an appropriate one.

Most cables you'll encounter are standard, so if you are missing any, you'll be able to buy replacements cheaply. Take your camera along to make sure you get the right lead, or buy online at a site such as www.cableuniverse.co.uk.

TOP TIP

Watch out for breakout cable connectors on TV cards. At first glance they can look very similar to a standard S-video input

TESTING AND TROUBLESHOOTING

Windows Me and XP come with a simple video capture and editing tool called Windows Movie Maker, which is perfect for testing as it works with DV camcorders and analogue video devices. After plugging in your video source, open the program by going to Start, Programs, Accessories, Windows Movie Maker. Press the Record button on the toolbar. Select your video and audio

devices from the lists provided. Press play on your camcorder or VCR, then press Record in Windows Movie Maker. After you've finished recording, press Stop and the program will divide your video into clips so you can edit it.

■ If Movie Maker doesn't detect a TV card, you could use your TV card's TV application to transfer video to your PC. Select the video input you are using in its Settings menu. If you are connecting to a video recorder using an RF lead, use TV mode and tune your TV card to the correct frequency.

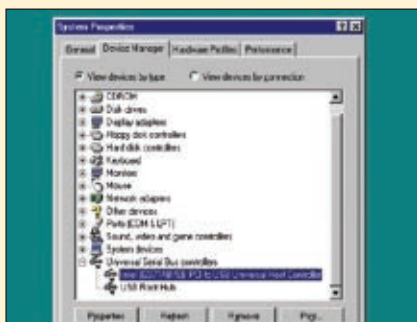
■ FireWire cards should appear in the Device Manager. In Windows 98 or Me, right-click My Computer, select Properties and then Device Manager. In Windows 2000 or XP, right-click My Computer, choose Manage and highlight Device Manager in the left-hand pane. A successfully installed FireWire card should appear within a category called 1394 Bus Controller. Expand this field and you should see the card described as an OHCI-compliant IEEE 1394 Host controller.

Right-click on the entry and select Properties to ensure the device is working properly.

■ USB cards can also be found in the Device Manager under Universal Serial Bus Controllers. Look within this category for a working Universal Host Controller. Right-click on the entry and select Properties to see if there are any problems.

■ If your hardware has not been detected, power down the PC. Check that your PCI card is properly installed in the socket, or that a USB device is connected to a port. If necessary, use another USB device such as a mouse or flash drive to check that the port works.

■ Try reinstalling the drivers from the CD. If you still have problems, you may find newer drivers on the manufacturer's website. If you don't get video or audio from your TV card, check the connections to the VCR or camcorder. Make sure it is playing video and that the TV card is set to the appropriate input.



In Windows 98 and Me, use Device Manager to check that your new hardware is running correctly